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THE CONCEPT OF VALUE

SUMMARY

Need of enlarged concepts, 663. — The "ratio" argument non-essential, 664. — The word "rate" might avoid unnecessary verbal implications, 668. — Relation and quality two phases of one fact, 672.

THE concept of value is the core of economic thinking, and modern economics is older than American independence, yet the builders of the science are still disputing what value is, or how it shall be conceived. This is altogether necessary and proper, for the concept is by no means in final shape. Indeed, one may hazard the prediction that progress in economic philosophy in the next half century will hinge on the adoption of new and enlarged meanings for its fundamental terms. Only so can we do for the twentieth century as much as our classical forefathers did for their time. It is a question how long nineteenth century formulations will stand the strain of twentieth century development. Our growing mass of economic regulations and social reforms, our general institutional iconoclasm, are a challenge to the values based on free exchange, and the final answer has not yet been given. Theories of conservation and compulsory insurance may be grafted upon the stem of marginal utility, but they will not grow there spon-

taneously. They represent clashes of values for which the economist has furnished no adequate common denominator. It is fruitless to claim that these are not economic values but values of some other sort; ethical or what you will. The same is true of the aesthetic value of a picture or the dietetic value of a roast of beef. The test is that the economist must deal with them.

The socialists have a sufficiently clean-cut philosophy covering these vexed questions of reform, and writers like Patten, Veblen, Hobson, and Davenport deal with the fundamental problem, each in his own way. Economists in general cannot afford to become as those who would put new wine in old bottles. There are questions of social interpretation at issue which are real and important. But just for this reason it is peculiarly unfortunate if the discussion runs off upon non-essential matters and is thus side-tracked. Time is worse than wasted which is spent on merely verbal argument, or in disputing the claims of rival concepts which involve a "distinction without a difference," and the excuse for the present excursion into this field is the hope that thereby some of this intellectual waste motion may be saved and real problems be attacked more directly.

It seems to the writer that certain non-essentials have intruded themselves and should be eliminated. One of these is verbal. In the long-standing debate whether value is a quantitative thing or a mere relation, some part of the battle has seemed to hinge on the mere use of the phrase "ratio of exchange." Of those who hold that value is a relation some have called that relation a ratio. And out of this innocent-looking term has grown one of those misunderstandings, those strange failures of mind to connect with mind, which stultify so much good argument.

The discussion in question runs thus: "Our honored opponents claim that value is not a quantitative thing but is a mere ratio. Granted, and granted willingly, for wherever there is a ratio there must be two commensurable quantities, or else no ratio can be struck between them. These quantities are value. Our opponents have disproved their own contention." What shall we say of this reasoning? We may pass it as flawless on one condition: namely, that the man who calls value a ratio is talking about the kind of ratio which has to have as its terms two quantities of something homogeneous, other than mere abstract numbers. Is this condition satisfied, or may we find that one side has used a word in one sense and the other side has read into the same word an essentially different meaning? Let us investigate.

It is not at all necessary, for those who choose to consider value a mere relation, that they call that relation a "ratio." John Stuart Mill was for the most part careful enough to avoid this term; he avoided it even in the passage in which he argued the impossibility of a general rise or fall in values because value was held to be a mere relation of things to each other. Taussig follows Mill's usage, but with a significant addition. "The value of a commodity means in economics its power of commanding other commodities in exchange. It means the rate at which the commodity exchanges for others."¹ Evidently Taussig considers that these expressions are either synonymous or else complementary, indicating but two aspects of the same thing. Indeed, the terms "rate" and "ratio" are sometimes used interchangeably. Usage is tolerant. Jevons, on the other hand, tho "not a courageous terminologist,"² not only defined value as a ratio but stoutly maintained

¹ Principles of Economics, p 115

² F. A. Fetter, "The Definition of Price," American Economic Review, vol 11, p 793

that this was "unquestionably the correct scientific term, and the only term which is strictly and entirely correct."¹ Certain other writers have followed Jevons' example — and by so doing have furnished ammunition to their terminological enemies, of which the enemy has not neglected to make use.

General F. A. Walker, for example, slips momentarily into this terminology: "But a measure, a relation, a ratio, cannot be measured! You do not measure the relation of a mile to a furlong: you express it as 8:1." This argument lays itself open to the reply, which Professor Carver makes, that measuring implies a common quality in the measure and the thing measured and that a ratio between concrete things implies some common attribute of a quantitative sort. "Obviously no such comparison can be made unless the thing used as a unit of measurement also possesses that property of the thing to be measured which is selected as the basis of comparison."² In this Professor Carver is technically correct, for his opponent had introduced the idea of a ratio between two similar quantities: two distances. But Professor Wicker is also within his rights in opposing Professor Carver's general conclusion,³ holding that valuing a horse is a different process from measuring a barn, and — avoiding the fatal phrase with which Walker had so weakened his position.

Similarly Professor B. M. Anderson clearly shows the weakness of this terminology.⁴ "Four gallons of milk exchange for one dollar, or 23.22 grains of gold. The exchange ratio is four to one. . . . Now a quantitative ratio is between commensurable quantities. Gold and

¹ *Theory of Political Economy*, 2d ed., p. 89

² "The Concept of an Economic Quantity," *Quarterly Journal of Economics*, vol. **xxi**, p. 427

³ *Quarterly Journal of Economics*, vol. **xxii**, p. 645

⁴ *Social Value*, p. 21

milk must be, then, commensurable quantities, *i. e.*, must have a common *quality*, present in each in definite quantitative degree. . . . This quality is *value*, . . . the exchange ratio will vary with the extent to which the common quality is present in each of the goods. We can have no quantitative ratios between unlike things. And yet, we must have terms for our ratios." The logic seems conclusive. If the value relation is a ratio this fact implies quantities of something homogeneous, and that homogeneous something becomes very important, so important as to demand an important name. To call it "value" is the obvious conclusion, leaving the term "price" free to express, if desired, the ratios of exchange, monetary and non-monetary, from which the existence of the quantity, "value" was inferred.

But this whole logical structure rests on the fact that the adversaries have used terms which assume the conclusion for which Professor Anderson is fighting. And even this is only true on condition that it can be shown that the word "ratio" is to be taken throughout in one very limited meaning: that of a quotient of two commensurable quantities. But the term is often used loosely, as all terms are in common speech, and this looser usage has even gained the dignity of recognition by dictionaries. Nor need this be regretted; men must use words loosely. If they did not, all literature would be reduced to mathematics and nobody would read it. This looseness does no special harm so long as neither writer nor reader shifts over to the strict usage, and begins drawing conclusions based on one usage from statements based on the other.

To illustrate: a rate of speed, say ten miles an hour, has sometimes been called a ratio.¹ Suppose now some one were to attempt to prove from this that distance

¹ See, for example, Webster's New International Dictionary, 1909

and time have a common quality, and that an hour has just ten times as much of this quality as a mile has ? Or even that a mile of a given road has a quality in common with an hour of Mr. Kolehmainen's running, and has just one-tenth as much of it ? The answer is severely simple. Ten miles an hour is clearly a rate, but it is not so clear that it is proper to call it a ratio. Certainly it is not a ratio in the sense of a quotient between miles and hours. It can be stated so as to involve a ratio, it is true, but the result only shows how much more than a mere ratio it is. We are talking of a rate of speed such that the number of miles covered is to the number of hours elapsed as the number ten is to the number one. Here we have a pair of ratios, not one, and both are ratios between abstract numbers, as indeed all ratios must be in the strict mathematical sense. We have not divided distance by time: we cannot, any more than we can divide apples by potatoes. We have merely divided one number by another. If we call the whole expression "ten miles an hour" a ratio, we are merely defining "ratio" loosely, not implying any theorems as to the oneness of time and space.

Zeno proves that Achilles cannot move to catch a tortoise. What has he proved ? Simply that Zeno's conception of motion is artificial and false, since he has conceived it as something Achilles cannot do. Man moves, then finds a word to express his action, then frames syllogisms about it. The final appeal is from Zeno to Achilles. And from those who call prices ratios and from those who draw conclusions based on this usage, the final appeal is to facts stripped bare of all that may have been read into them.

Suppose now that Smith gives Brown forty gallons of milk and receives in exchange ten bushels of wheat, or

perhaps a warehouse receipt for 258 grains of standard gold bullion. Milk exchanges for wheat at the rate of four gallons per bushel and for gold at 25 cents per gallon or, as the farmer is quite as likely to say, four gallons for a dollar. The writer contends that these phrases express ratios in just the same sense that "ten miles an hour" does, and in no other — that is, they do not strictly express ratios at all, but rates. A rate tells us that for every unit of one thing so many units of something else may be achieved or obtained; for every hundred dollars of principal five dollars of interest, for every thousand dollars' worth of real estate, eighteen dollars of taxes, for every hour, ten miles, for every dollar, four gallons of milk. The terms of a rate may or may not be commensurable with each other.

Again, cigars may sell for ten cents apiece, three for a quarter, or three dollars and a half for a box of fifty. Strange that there should be three different ratios existing at once between the same two terms! This is super-mathematics with a vengeance. But if we are talking about rates, not ratios, there is no more inconsistency about a "rate" of exchange which varies with quantity than there is about a runner who covers one mile at a faster rate than he could keep up for five times that distance.

Indeed, there are various ways in which, whether it is price or value that one is talking about, "rate" seems a more handy word than "ratio" for the latter term introduces an element of arithmetical unreality which must be explained away, or illustrated away, before the discussion can move on. For example:¹ "When a certain quantity of wealth of one kind is exchanged for a certain quantity of wealth of another kind, we may divide either of the two quantities by the other and

¹ Irving Fisher, *Elementary Principles of Economics*, pp 13-14

obtain what is called the *price* of the latter. That is, *the price of wealth of one kind in terms of wealth of another kind is the ratio of exchange between the two, i. e., the ratio of the number of units of the latter to the number of units of the former which will be given in exchange.* Thus, if 200 bushels of wheat are exchanged for 100 ounces of silver, the price of the wheat in terms of silver is $200 \div 100$ or two bushels per ounce. Thus, there are always two prices in any exchange. Practically, however, we usually speak only of one, *viz.*, the price in terms of money, obtained by dividing the number of units of money by the number of units of the article exchanged for that money. It follows that the price of any particular sort of wealth is the amount of money for which a unit of that wealth is exchanged."

Reading this passage in the light of the foregoing, does it not appear that the author is put to much trouble simply because he twice brings in the idea of a mathematical ratio, or quotient, between abstract numbers and then twice has to make clear that he really means something different — a much more complex relationship between quantities of concrete things? As a price, $200 : 100$ by itself means nothing, and $200 \text{ bu.} : 100 \text{ oz.}$ would mean exactly as much. The true ratio here is only an intermediate step in the process of finding the price, and disappears when its function is performed. The process in its painful fulness is as follows: 200 bushels of wheat buy 100 ounces of silver. How many ounces of silver does each bushel buy? In getting the answer, $\frac{1}{2} \text{ oz.}$, we really use, not one ratio, but a proportion of two ratios, one between wheat and wheat, the other between silver and silver, thus: $1 \text{ bu.} : 200 \text{ bu.} :: \frac{1}{2} \text{ oz.} : 100 \text{ oz.}$ Why not say "wheat buys silver at the *rate* of $\frac{1}{2} \text{ oz. per bu.}$," and then forget that the method of proportion was used to find the answer?

The case is much the same with the briefer statement:¹ "Value is a ratio of exchange between two goods, quantitatively specified." The troublesome word once having been inserted, the statement must at once be qualified in order to show that the ratio is not between the commodities, but between the abstract numbers of the units of measure which each commodity contains.

Now if "ratio" does not really mean ratio, but rate, then all this trouble is needless, and the sources of our terminological discord may be diminished, if ever so little. And besides, we should economize one syllable. Those who hold that value is a relation should be the last to adopt a term which delivers them needlessly into the hand of the doctrinal enemy. And if the enemy, holding that value is a quantitative thing, chooses to define price as a ratio between values, why he has thereby assumed the truth of his conclusion, but not strengthened the evidence in its favor. Indeed, he is in danger of proving too much; of proving that value is not merely a quality but a jelly, and of running foul of the experience common to all men who have ever debated whether or not to buy their cigars by the box.

It would seem that the use of the term "rate" would avoid some embarrassment, ambiguity, and sterile dialectic. To pay for this we should merely incur a slight awkwardness when speaking of things like works of art which are unique; since the expression "rate of exchange" suggests a considerable number of sales.

So much for the matter of terminology. Meanwhile, the question remains unsettled whether value is a mere relation between goods and derived from the fact of

¹ Davenport, *Value and Distribution*, p. 569. In his later book Davenport substitutes the word "relation" for "ratio." *Economics of Enterprise*, p. 236.

exchange, or a quantitative thing which precedes exchange and is merely measured by it. This being the case, it is fortunate that most of the working theory of economics is either price theory or at least can be translated into terms of price. Thus the practical economist, and even the theorist of a pragmatic turn of mind can look on quite contentedly and say, with Sir Lucius, "It's a very pretty quarrel as it stands."

Is it possible that the whole dispute is as unnecessary as the argument about ratios? We think of a bushel of wheat having exchange value before it is sold. But so far as this quality, or relation, to which the sale gives a quantitative measure, is the result of previous sales of other bushels and of the whole state of mind of the people concerned that has grown out of settled habits of exchange, it would hardly seem worth debating which comes first in the social scheme of things. It is much like the question of the relative priority of the chicken and the egg.

If things exchange for each other, that is another way of saying that they are able so to exchange; or rather, to move men to exchange them; they have the capacity or quality or power of entering into this relation. The relation and the quality are but two phases of one fact: whoever states one implies the other.¹ And this means, in a tolerant world, that whoever gives the name "value" to one of these concepts implies the right of any one else to give the same name to the other in his own discussions. The two concepts must behave alike, since one is only known through the other.

¹ Since writing the above, my attention has been called to a discussion of the general question of qualities and relations in F H Bradley's *Appearance and Reality*, ch III, in which he says: "Relation presupposes quality and quality relation. Each can be something neither together with, nor apart from, the other, and the vicious circle in which they turn is not the truth about reality." Moreover, while a relation between A and B implies qualities, the author says nothing of a common quality possessed by both A and B by virtue of which they are related. It is by virtue of being different that A and B can enter into relation with each other. Just so it is by virtue of being different that shoes and money are exchanged for each other, or shoes and bread.

So far, those who call value a quality have accepted it as a quality which is measured by the test of exchange. And so long as this is true, the practical reasoning of one school must be surprisingly like the practical reasoning of the other. Strength is a quality, but if wood-chopping be made the official measure of it, it might as well be a mere relation between working time and woodpiles. In such a case it is not strength or power in general that is being measured, not even muscular strength, but merely power-to-chop-wood. Similarly value may be considered as a quality like strength, and called "social marginal utility" or "power in motivation," but when it is measured no one thinks of using a psychological laboratory for the purpose. The thing really measured is motivation as registered in one particular kind of action, it is not utility in general but the power utility has to produce one kind of effect. The runner may think of his speed as his personal quality and the judge of the races may think of it as a relation between yards and seconds, but to both alike the tape and the stop-watch tell the story of the speed attained in the contest.

Is it possible that some day there will be economists who think of value not only as a quality, but as a quality which may be measured in ways that would conflict with the measure of the exchanges? Perhaps we shall be called on to distinguish between "social value" and "exchange value" as Wieser distinguished between "exchange value" and "natural value." If such a distinction is made, it will furnish a difference that will call loudly for settlement.

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